

CLAIMS

What is claimed is:

- 5 1. A radiation-curable coating comprising:
- (i) a component represented by the following formula (a);
- A-X<sub>1</sub>-A (a)
- wherein
- A represents a (meth)acrylate group; and
- 10 X<sub>1</sub> represents an aliphatic or aromatic group; and
- (ii) a urethane (meth)acrylate component comprising a (meth)acrylate group, X<sub>1</sub>, and a residue of a multifunctional isocyanate.
- 15 2. The composition of claim 1, wherein X<sub>1</sub> represents an aromatic group.
3. The composition according to any one of claims 1-2, wherein X<sub>1</sub> comprises one or more residues of a phenolic group.
4. The composition according to any one of claims 1-3, wherein X<sub>1</sub> comprises one or more alkoxy groups.
- 20 5. The composition according to any one of claims 1-4, wherein said formula (a) represents a bisphenol diacrylate.
6. The composition according to any one of claims 1-5, wherein said formula (a) represents a bisphenol A diacrylate.
7. The composition according to any one of claims 1-6, wherein said formula (a) represents an alkoxyated bisphenol A diacrylate.
- 30 8. The composition according to any one of claims 1-7, wherein X<sub>1</sub> has a molecular weight below 750 g/mol.
9. The composition according to any one of claims 1-8, wherein X<sub>1</sub> has a
- 35 molecular weight below 500 g/mol.

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10. The composition according to any one of claims 1-9, wherein said multifunctional isocyanate is an aromatic diisocyanate.

5 11. The composition according to any one of claims 1-10, wherein said multifunctional isocyanate is a toluene diisocyanate.

END A<sub>1</sub> 10 12. The composition according to any one of claims 1-11, wherein said composition comprises an oligomer prepared by reacting one or more polyols with one or more polyisocyanates and one or more hydroxyalkylacrylates.

13. The composition according to claim 12, wherein said one or more polyols includes a polyether polyol.

15 14. The composition according to claim 12, wherein said one or more polyols includes a polyester polyol.

SUB A<sub>2</sub> > 20 15. The composition according to any one of claims 1-14, wherein said composition comprises one or more photoinitiators.

16. The composition according to any one of claims 1-15, wherein said composition, after cure, has a glass transition temperature in the range of 70-130°C.

25 17. The composition according to any one of claims 1-16, wherein said composition, after cure, has a modulus of at least 400 MPa.

18. The composition according to any one of claims 1-17, wherein said composition comprises a colorant.

30 19. A product obtained at least in part by curing the composition according to any one of claims 1-18.

35 20. An optical fiber matrix material, an optical fiber secondary coating, an optical fiber colored secondary coating, an optical fiber ink coating, or an optical fiber bundling material obtained by curing the composition according to any one of claims 1-18.

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21. Use of the composition according to any one of claims 1-19 as an optical fiber matrix composition, an optical fiber secondary coating composition, an optical fiber colored secondary coating composition, an optical fiber ink coating composition, or an optical fiber bundling composition.

22. A method of improving the tensile strength, modulus, and/or elongation of a radiation-curable composition comprising:

adding a multi-functional isocyanate to the composition prior to curing.

23. The method according to claim 19, further comprising reacting at least a portion of the added multi-functional isocyanate with a hydroxy-functional mono(meth)acrylate.

24. A composition obtainable by the method according to any one of claims 22-23.